

**DRAFT**

**Program Executive Office (PEO)  
Standard Army Management  
Information Systems (STAMIS)**

**Transportation Coordinators' Automated Information  
for Movement System II (TC-AIMS II)**



**Integrated Logistic Support Plan**

12 May 2000

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**DRAFT**

## **PREFACE**

The contents of this Integrated Logistic Support Plan were prepared in coordination with the TC-AIMS II Integrated Logistic Support (ILS) Working-Level Integrated Product Team (WIPT).

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Changes to this ILS Plan will be distributed based on program changes and comments from addressees. Addressees are encouraged to submit recommended changes/updates to the above office.

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## **1. GENERAL**

### **1.1 INTRODUCTION.**

#### **1.1.1 Purpose.**

This Integrated Logistic Support Plan (ILSP) identifies the overall logistics requirements needed to support the Transportation Coordinators' Automated Information for Movement System II (TC-AIMS II). It documents program activities, establishes logistics guidance, and provides the continued planning necessary to ensure effective and economical logistics support for TC-AIMS II. This ILSP is a stand-alone document that will be continually updated throughout the TC-AIMS II life cycle.

#### **1.1.2 Background.**

TC-AIMS II is a Department of Defense (DoD) directed program. In 1987, the Secretary of Defense directed that programs be initiated to provide automated support to Service transportation coordinators. Joint Staff Memo (JSM) 3-87 directed the Services to implement this guidance. Each Service developed its own system to comply with SM 3-87. In 1993, the Secretary of Defense directed that systems improvement actions be taken to increase standardization, improve processes, and migrate multiple parallel and/or stovepipe systems into effective multi-purpose, Multi-Service automated support systems. In March, 1995, the Office of the Secretary of Defense (OSD) approved recommendations from the Joint Transportation Corporate Information Management (CIM) Center (JTCC) to migrate selected portions of Unit Move and Installation Transportation Office/Traffic Management Office (ITO/TMO) systems into an improved TC-AIMS II. TC-AIMS II was designated to be a standard Joint system which would be sufficiently flexible to meet Service-unique requirements.

#### **1.1.3 Operational Concept.**

TC-AIMS II will provide the capability to automate Unit Move and ITO/TMO planning and execution whether from garrison or a deployed field operational environment. It will provide a common hardware suite running software applications designed for easy data retrieval and data exchange and connectivity to relevant external sources. Through interfaces with over 40 trading partners, TC-AIMS II will exchange data with Service planning and logistics systems, Defense and commercial transportation systems, and the Global Transportation Network (GTN). Information available from external systems and through Automated Identification Technology (AIT) devices will reduce manual data entry. TC-AIMS II will be the standard Joint transportation and deployment information management system. TC-AIMS II architecture will be flexible enough to accommodate basic differences in the individual Services' transportation and deployment processes.

#### 1.1.3.1 Garrison Operational Concept.

TC-AIMS II will operate in garrison to support daily military transportation requirements, transportation and specific deployment-related deliberate planning requirements, and transportation and deployment execution requirements. The garrison configuration will use existing base communications infrastructure and consist of a combination of garrison, garrison satellite, and group work centers at various locations on installations and levels of command as required to meet the needs of the individual Services' processes.

#### 1.1.3.2 Deployment/Employment Operational Concept.

TC-AIMS II will be used to deploy forces and support their employment once in theater. It will have the capability to provide support in field operations conditions to include reception, staging, onward movement and integration (RSO&I) and redeployment. Units with deployment, movement control and/or mode operations missions will deploy with their own TC-AIMS II hardware platforms. TC-AIMS II architecture will be consistent with the way forces are deployed to meet the individual Services' transportation and deployment requirements.

#### 1.1.4 Mission Area and Defense Guidance.

Defense Planning Guidance (DPG) Element. TC-AIMS II is within the DoD mission areas of mobility and sustainment. This is defined as transportation movement and support of DoD personnel and cargo during all phases of military operations in all environments, including RSO&I, battlefield operations, and redeployment. As a Joint information management system, TC-AIMS II focus within the broad area of mobility is the communications, information, and automated processes needed by: units which are deploying; units/activities which are assisting in the deployment; units/activities which support daily movement missions as part of the DTS; and C2 headquarters which support the deployment and employment of forces from every Service. TC-AIMS II focus includes daily transportation management, traffic management, commercial carrier interfaces, movement control and mode operations in garrison and at depots, consolidation activities, and transshipment locations.

#### 1.1.5 Mission Need.

TC-AIMS II must address critical shortfalls in moving cargo and people in support of the DoD mission. It was established as the Joint migration system to integrate disparate Service-unique movement systems at the installation and unit levels. It will provide actual source data on people, equipment, and sustainment throughout the deployment/redeployment processes, as well as the day-to-day movement of people and cargo. This system must support the FY87 Joint Chiefs of Staff (JCS) direction and the FY89-94 Defense Guidance (DG) that provided a requirement for an automated capability to provide timely and accurate passenger/cargo movement information during force deployments. Further, system development and implementation must be consistent with FY95-99 DPG that called for support systems to provide "rapid strategic mobility and sufficient support and sustainment capabilities.

TC-AIMS II must provide an integrated information transportation system capability for routine deployment, sustainment, and redeployment/retrograde operations by employing the same DoD and Service shipment policies and procedures in peace and war and in both the active and reserve forces. This system must be integrated with unit, installation, and depot-level supply systems to manage inbound and outbound movement [less Household Goods (HHG)] documentation and requisition information. TC-AIMS II must be capable of supporting routine and surge requirements and must automate origin shipping/receiving and deployment; sustainment and redeployment/retrograde processes; produce movement documentation, unit move data; and furnish timely information to major commands (MAJCOMs/MACOMS), transportation component commands, United States Transportation Command (USTRANSCOM), and the Joint deployment community. As a DoD source movement information system, TC-AIMS II must provide data for In-Transit Visibility (ITV) and control over cargo and passenger movement.

#### 1.1.6 Relation of Mission Need.

The Secretary of Defense directed the system to satisfy these mission needs be fielded by Mar 97. Beyond that requirement, there is an urgent need to field a system that meets these needs in order for the DTS to be able to efficiently support unit movements and sustainment actions in support of U.S. policy to react to crises or conflicts with Continental United States (CONUS)-based components supported by Afloat Prepositioning Force assets of the Unified Commands. This has given additional emphasis to Joint operations and composite force concepts.

Current systems fielded in the individual DoD Components cannot support such deployments with any degree of efficiency. Individual DoD Component systems support their DoD Component's needs satisfactorily, but they cannot adequately support Joint or composite operations. It is imperative that these mission needs be satisfied in conjunction with the actions being taken in the operational systems arena so the transportation system that deploys and supports them is readily available. This requirement is essential to complying with stated U.S. policy.

#### 1.1.7 Application.

This ILSP outlines logistics planning considerations and goals for TC-AIMS II. It contains the planning to support the logistics concepts and requirements developed in coordination with the TC-AIMS II ILS Working-Level Integrated Product Team (WIPT). It's format has been guided by AR 700-129/OPNAVINST 4105.2A/AFR 800-43/MCO 4110.2, *Management and Execution on ILS Program for MultiService Acquisitions*. It has been staffed with the Services and appropriate agencies, and incorporates comments and recommendations from the ILS WIPT members identified at Appendix A, ILS WIPT Members and Points of Contact. The JPMO will ensure that all system development decisions are evaluated for their logistics impact and Life Cycle Cost (LCC).

### 1.1.8 Abbreviations and Acronyms.

A list of terms, abbreviations, and acronyms is found at Appendix B.

## 1.2 SYSTEM DESCRIPTION.

### 1.2.1 Overall Description.

TC-AIMS II combines the requirements for Unit Move and ITO/TMO as defined in the JTCC Transportation Migration Systems Recommendation, Integration Decision Papers (IDPs). It will provide support in two broad functional areas: Unit Move (Force Deployment) and Installation Transportation Management (Deployment Support). Each is critical to a Unified Commander's warfighting capability. Since these areas are not cleanly delineated, there are many crossover functions that support requirements for both.

#### 1.2.1.1 Unit Movement.

TC-AIMS II will include automated support to assist unit commanders to create, maintain, manage, and update unit equipment, personnel lists and deployment databases. It will also facilitate planning and execution of organic movements. TC-AIMS II will incorporate procedures for the identification of assets and requirements for force deployment/redeployment during deliberate and crisis action planning. It will provide tools to support continuous data process management, planning and execution of deployments, and asset tracking. Transportation deployment planning will start with the establishment of unit move requirements and end with the arrival of required assets at a destination point. The planning function will include preparation and execution of convoys (assigning, loading, staging, moving, controlling, coordinating, tracking, etc.) and rail movements. In addition, the Unit Move function will support rail, air, and ship loading. To support the concept of operations once employed, these same capabilities will be used internally within the Commander-In-Chief's (CINC's) Area of Responsibility (AOR).

#### 1.2.1.2 Installation Transportation Office/Traffic Management Office.

The ITO/TMO domain includes functions that support transportation requirements, procure commercial carriers support, capture historical shipment information, and track unit moves during day-to-day operations. These functions provide automated support capabilities to the transportation coordinator for receiving, packaging, documenting, coordinating, managing, tracking, and transporting cargo and passengers. The ITO/TMO domain also facilitates load planning and execution, including tracking inbound/outbound shipments and passing data to other systems, as required.

### 1.2.2 TC-AIMS II Software Architecture.

TC-AIMS II will provide planning and coordination support for the movement of people and gear, shipment of cargo and the deployment of entire units. It will support users involved in routine day-to-day operations all the way through warfighting operations. This support can be effectively delivered at home base or halfway around the world. This software will be present on all TC-AIMS II installations, whether positioned at a site, location, or ITO/TMO, thus providing the software functionality required to support the organizations' transportation mission requirements.

### 1.2.3 TC-AIMS II Hardware Architecture.

TC-AIMS II will be developed in accordance with the Joint Technical Architecture. The system will reside on both Pentium based workstations and notebook computers. Users will access, create and update data and will have the ability to interface with other TC-AIMS II nodes and with external systems. This includes the ability to aggregate data and send it to higher echelon TC-AIMS II nodes. The system will have the capability to be employed in garrison or deployed/stand-alone configurations to meet mission requirements. The need to develop TC-AIMS II to run in these environments allows several alternative hardware/software combinations for the fielding of TC-AIMS II throughout the Joint Services. Figure 1-1 illustrates the range of hardware architectures available in these operating environments.

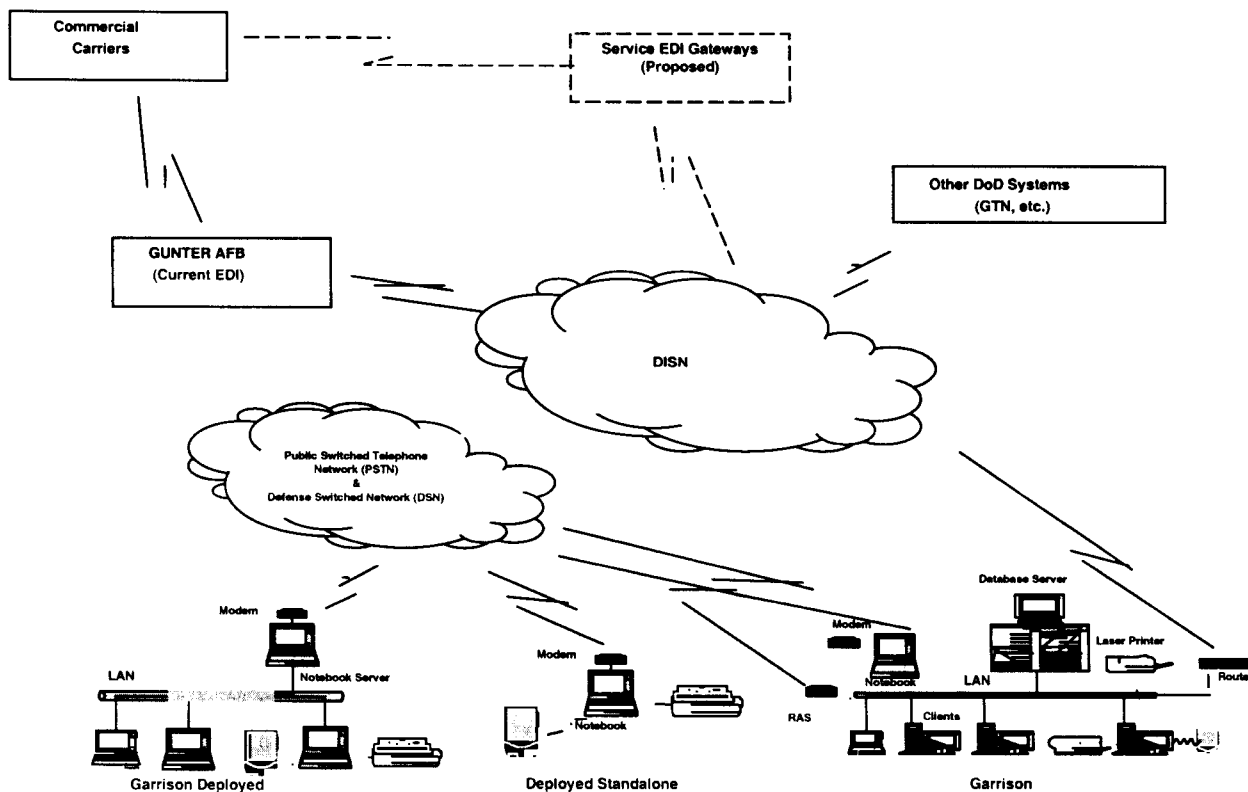


Figure 1-1: TC-AIMS II Hardware Architecture Configurations

### 1.2.3.1 Garrison/Installation Concept.

This configuration supports installations with network connectivity, in either garrison or deployed modes. The server machines will contain only the TC-AIMS II database. The client machines will contain the TC-AIMS II database (optional), the TC-AIMS II application, and all other system components. The application can access data from the local database on the user's workstation (if it is installed), a database on another user's workstation, or a database on a server machine. The garrison server machine will provide a common database for all clients within the garrison that want to work in a client/server mode. Figure 1-2 displays the garrison environment and the relationship between the TC-AIMS II application components and those of the environment.

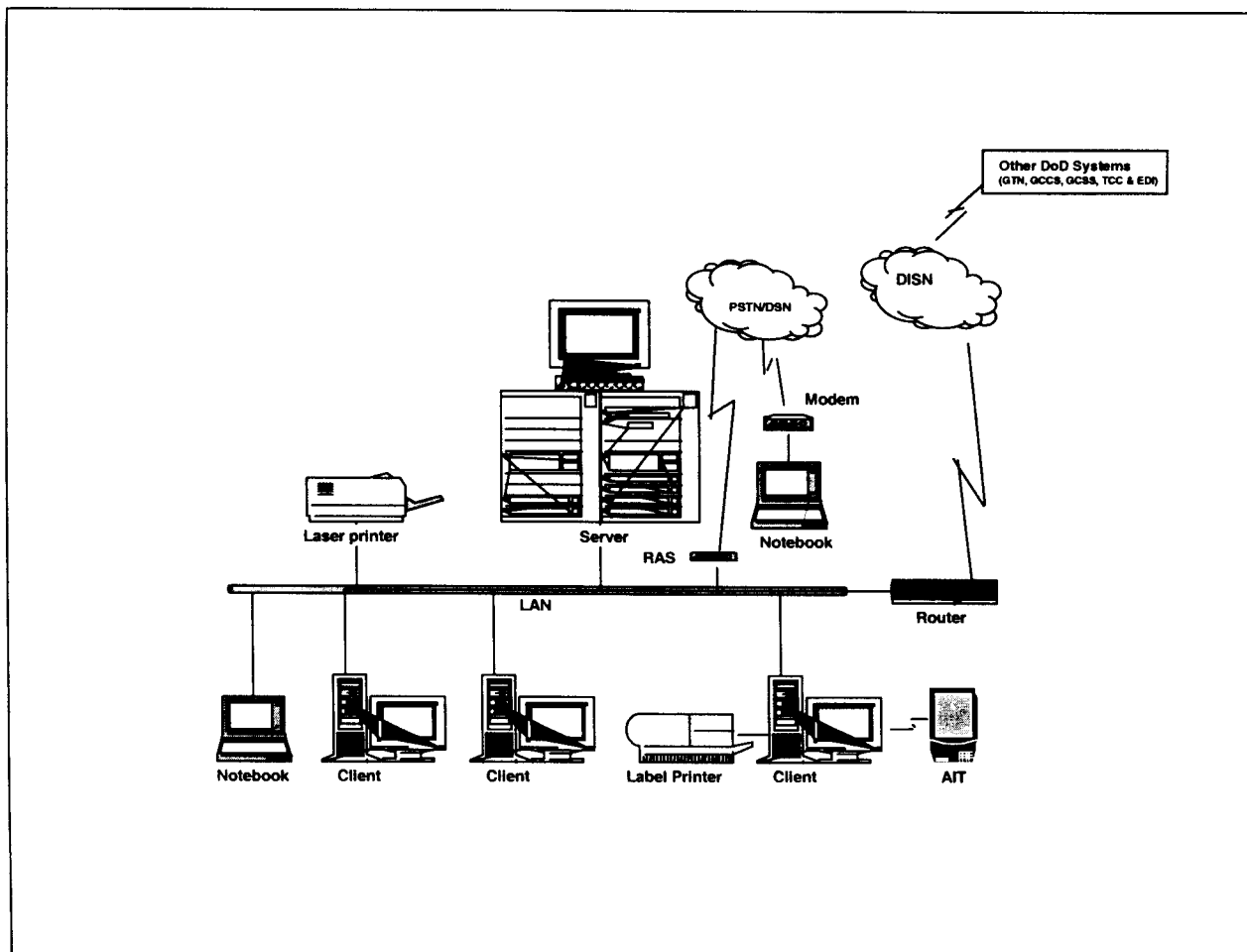
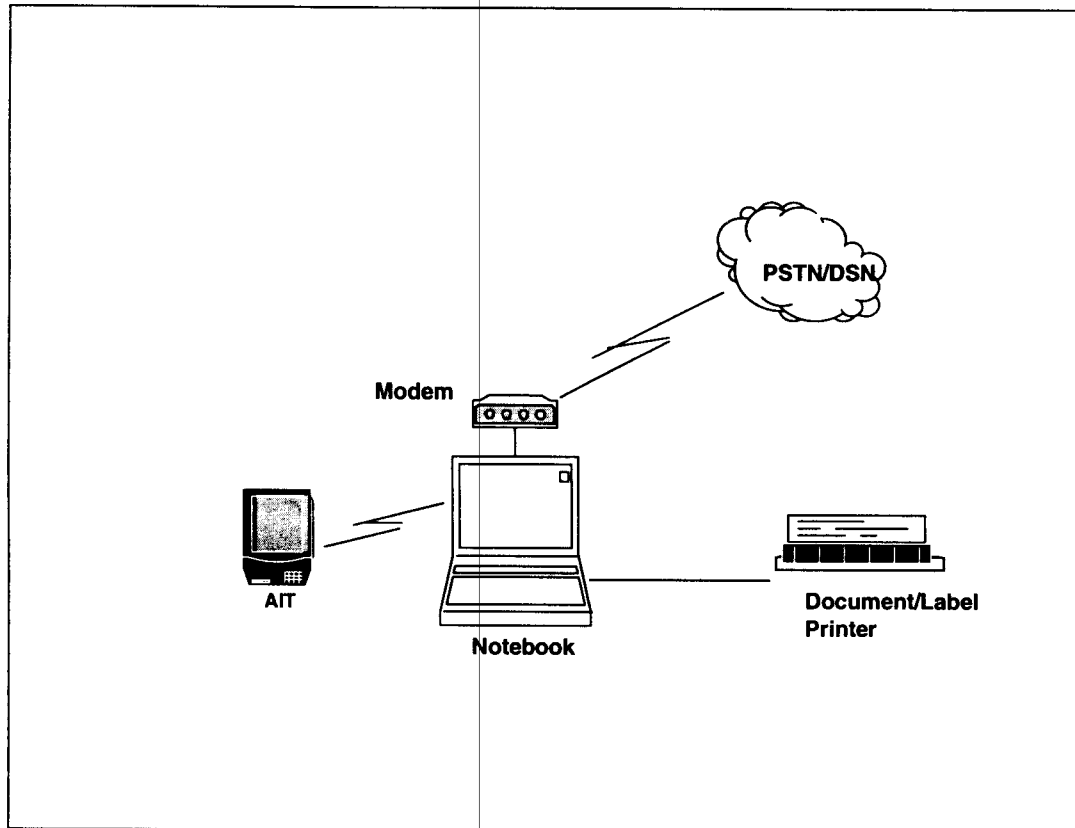


Figure 1-2: Garrison Configuration

### 1.2.3.2 Stand-Alone Concept.

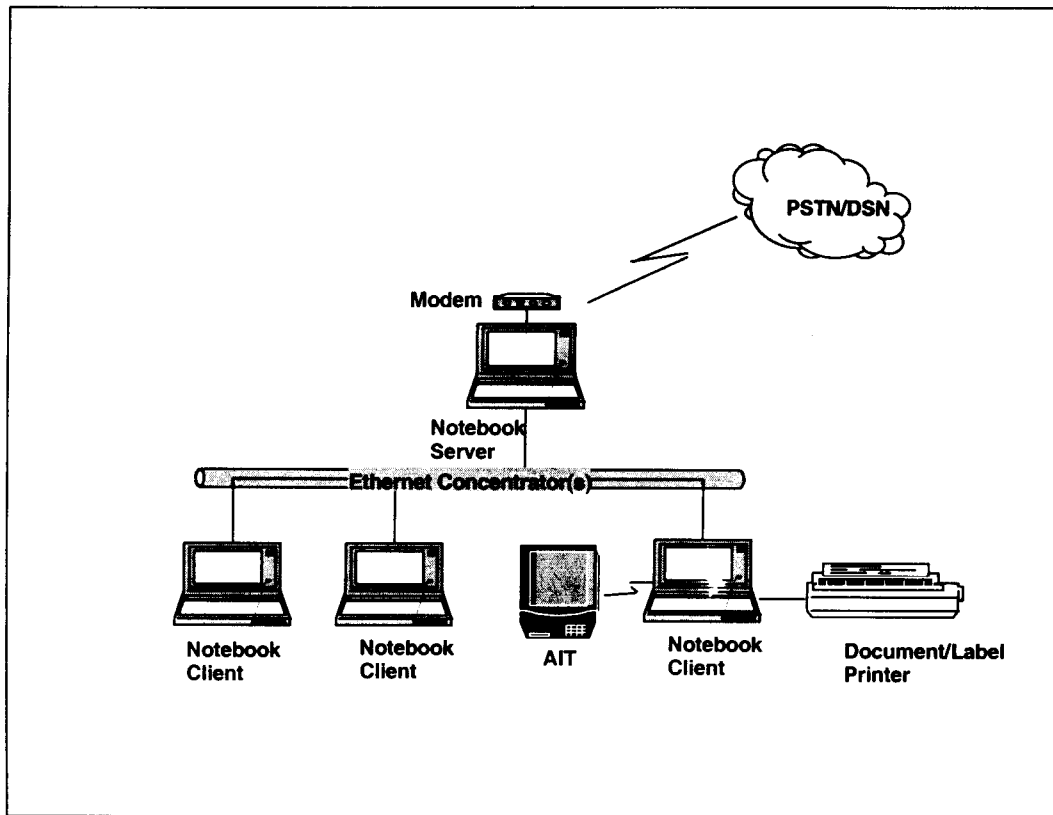
Figure 1-3 displays the stand-alone environment. The user's data will reside on the local database and communication with external systems will be performed via floppy disk, e-mail, or File Transfer Protocol (FTP) if the user has occasional network connectivity. The workstation will be populated with reference data and can be initially populated with data from a server by connecting to that server. The underlying connectivity for connection to the network must be via Transmission Control Protocol/Internet Protocol (TCP/IP). For example dial-up modems are supported along with normal Local Area Network (LAN) connections.



**Figure 1-3: Stand-Alone Concept**

### 1.2.3.3 Garrison Deployed Configuration.

Figure 1-4 displays the garrison deployed configuration. By including all the components of the system on the client machine, the user will be able to break away from the garrison and deploy with no additional configurations to the machine. The client database connection to the server will be encrypted. In this configuration, it is expected the user will be connected to the Internet Protocol Routing Network (NIPERNET) to allow the user to constantly communicate with external systems.



**Figure 1-4: Garrison Deployed Configuration**

#### 1.2.4 Hardware and COTS Software Design Specifications.

a. The following paragraphs describe the hardware and Commercial off-the-Shelf (COTS) software being used to develop and test TC-AIMS II. These configurations will be reevaluated during and after the completion of System Development Testing (SDT) and the government Software Qualification Testing (SQT). During the interim, new equipment should be purchased at the standard market equivalent and does not have to be identical to the manufacture/models listed below. It is not required or expected that these specific configuration and manufacture models be purchased. The configurations listed are what the JPMO is using to test the system, not what the Services have to buy.

b. Where additional systems/applications will be co-hosted on a platform, the hardware must be enlarged to satisfy the total requirement. Scaling the hardware to co-host additional systems is a Service responsibility.

##### 1.2.4.1 Garrison Server Hardware Requirements.

a. The Server provides a centralized platform for data roll-up, backup, and recovery. The following describes the configuration of a single server processor.

(1) Processor Requirements. The Server is a **HP LXe PRO 6/200** with Disk Array 5 SGL Processor with 512 KB cache.

(2) Random Access Memory (RAM) Requirements. To support the transaction volume expected at the Service location, the server should be configured with a minimum of **320 MB of RAM**.

(3) Hard Drive Requirements. To support the transaction volume expected at the Service location, the server should be configured with a minimum of **6-9.1 GB** Hot Swap Drives.

(4) Software. The server will have a Windows NT Operating System for Server 4.0 and Sybase ASE 11.5 database COTS software.

(5) Network Card. Ethernet or Fast Ethernet.

(6) Network Connectivity. TCP/IP.

(7) UPS. HP 3.0 KVA Power Trust UPS.

(8) CD-ROM Drive. Yes.

(9) Monitor. 17-in Color.

(10) Mouse. Yes.

(11) Tape Drive. HP DAT241, 24 GB Internal.

(12) Graphics Card. Color 2D.

(13) Other COTS Packages. InfoMaker.

b. The following describes the configuration of a dual processor server.

(1) Processor Requirements. **Compaq Proliant 5500 200 Mhz Dual Processor** with 512 KB cache.

(2) Random Access Memory (RAM) Requirements. **320 MB of RAM**.

(3) Hard Drive Requirements. **6-9.1 GB** Hot Swap Drives.

(4) Software. The server will have a Windows NT Operating System for Server 4.0 and Sybase ASE 11.5 database COTS software.

(5) Network Card. Ethernet or Fast Ethernet.

(6) Network Connectivity. TCP/IP.

(7) UPS. HP 3.0 KVA Power Trust UPS.

(8) CD-ROM Drive. Yes.

(9) Monitor. 17-in Color.

(10) Mouse. Yes.

(11) Tape Drive. 418 GB DAT.

(12) Graphics Card. Color 2D.

(13) Other COTS Packages. InfoMaker.

#### 1.2.4.2 Desktop Hardware Requirements.

a. The desktop client hardware is driven primarily by the demands of the operating system and Service specific requirements. The following describes the configuration of a Developmental Desktop Configuration (Type 1).

(1) Processor Requirements. The ideal client machine would be configured with an **Opticles G1 Pentium II 300 Mhz Mini Tower**. While not an operational requirement, selected machines should be equipped with at least a **4X CD-ROM** and a **sound card with speakers** to support multimedia training.

(2) RAM Requirements. The ideal client machine would be configured with **64 MB of RAM** to support Windows NT operating system with Sybase database COTS software.

(3) Hard Drive Requirements. The ideal client machine would be configured with **4.3GB** of disk space to support the operation of TC-AIMS II and Office software such as word processing, spread sheet and e-mail. To support operation as a Windows NT server, a portion of the hard drive needs to be configured for server operations, thus limiting the amount of office software. While IDE hard drive interface boards come standard on many PCs, the IDE interface only supports 2 devices per interface board. Small Computer System Interface-2 (SCSI-2) fast and fast/wide interface boards and hard drives are typically available as low cost options. Considering the possible adaptation of a client machine into a deployed server, **SCSI interfaces boards and disk drives** should be selected for all new client machines.

(4) Other Drives. 3.5-in floppy drive.

(5) CD-ROM Drive. Yes

(6) Display Requirements. The preferred video configuration for TC-AIMS II is: a High Resolution **17-inch monitor with 1Mb (or higher) of video RAM**, supporting 800x600, 256 color displays.

(7) Mouse. Yes.

(8) Graphics Card. 2 MB.

(9) PC Card. PCMCIA Drive.

(10) Software. Windows NT Operating System for Workstation 4.0 and Sybase ASE 11.5 database COTS software.

(11) Network Card. Ethernet or Fast Ethernet.

(12) Network Connectivity. TCP/IP.

(13) Other COTS Packages. InfoMaker, Norton Antivirus.

b. The following describes the configuration of a Developmental Desktop Configuration (Type 2).

(1) Processor Requirements. Pentium 180 Mhz.

(2) RAM Requirements. **64 MB**.

(3) Hard Drive Requirements. **4.3GB**

(4) Other Drives. 3.5-in floppy drive.

(5) CD-ROM Drive. Yes

(6) Display Requirements. 17-in High Resolution.

(7) Mouse. 3 button digital.

(8) Graphics Card. 2 MB.

(9) PC Card. PCMCIA Drive.

(10) Software. Windows NT Operating System for Workstation 4.0 and Sybase ASE 11.5 database COTS software.

(11) Network Card. Ethernet or Fast Ethernet.

(12) Network Connectivity. TCP/IP.

(13) Other COTS Packages. InfoMaker, Norton Antivirus.

#### 1.2.4.3 Notebook Configuration.

a. The Notebook will operate as a workstation or a server depending upon operational requirements. The following describes the configuration of a Developmental Notebook Configuration (Type 1).

(1) Processor Requirements. The stand-alone machine should be a DELL latitude CPI D233ST Pentium II 233 Mhz. While not an operational requirement, selected machines should be equipped with at least a **4X CD-ROM** and a **sound card with speakers** to support multimedia training.

(2) RAM Requirements. The server and the stand-alone machine should ideally be configured with **64 MB** or better of RAM.

(3) Hard Drive Requirements. The server and the stand-alone machine should be configured with a minimum of **3.2 GB** of disk space.

(4) Other Drives. 3.5-in floppy drive.

(5) CD-ROM Drive. Yes

(6) Display Requirement. The Notebook should be configured with an **SVGA, 256 color, active matrix display**.

(7) Mouse. Touchpad.

(8) Graphics Card. 2MB.

(9) PC Card. PCMCIA Drive.

(10) Software. Windows NT Operating System for Workstation 4.0 and Sybase ASE 11.5 database COTS software.

(11) Network Card. Ethernet or Fast Ethernet.

(12) Network Connectivity. TCP/IP.

(13) Other COTS Packages. InfoMaker, Norton Antivirus.

b. The following describes the configuration of a Developmental Notebook Configuration (Type 2).

(1) Processor Requirements. Pentium 180 MHZ.

(2) RAM Requirements. **64 MB**.

(3) Hard Drive Requirements. **4 GB** of disk space.

(4) Other Drives. 3.5-in floppy drive.

(5) CD-ROM Drive. Yes.

(6) Display Requirement. Active matrix display.

(7) Mouse. Touchpad.

(8) Graphics Card. 2MB.

(9) PC Card. PCMCIA Drive.

(10) Software. Windows NT Operating System for Workstation 4.0 and Sybase ASE 11.5 database COTS software.

(11) Network Card. Ethernet or Fast Ethernet.

(12) Network Connectivity. TCP/IP.

(13) Other COTS Packages. InfoMaker, Norton Antivirus.

#### 1.2.4.4 AIT Compatability.

<u>CAPABILITY</u>	<u>EQUIPMENT</u>	<u>STATUS</u>
<b>PRINT LABELS</b>	Intermec 4400	Currently compatible
	Zebra PT-400 Portable Printer	Currently compatible
	Zebra Z-4000 Printer	Currently compatible
	Zebra Z-6000 Printer	Currently compatible
<b>SCAN LABELS</b>	Janus 2020 DCD <i>with 4MB memory</i>	Currently compatible <sup>1</sup>
	Savi 410R Hand-Held Interrogator	Currently compatible <sup>2</sup>
	Symbol 7200 Series Scanner	Not currently compatible <sup>3</sup>
	Symbol 7500 Series Scanner	Not currently compatible <sup>3</sup>
	Symbol 2700 Series Scanner	Not currently compatible <sup>4</sup>
<b>BURN RF TAGS</b>	Savi Fixed or Mobil Interrogator	Currently compatible
	Savi Tag Docking Station	Not currently compatible <sup>5</sup>

There are other devices that connect to the *hardware* that TC-AIMS II runs on but these are not AIT devices that are interfacing to the TC-AIMS II application but rather to the hardware and operating system. An example is the base station for the Janus 2020 or Savi 410R, both of which work with TC-AIMS II but are independent of the application.

#### NOTES:

1. The Janus 2020s that were part of the Beta site fieldings were all 1MB and will **not** work with the current version of TC-AIMS II that is loaded on the Janus and Savi series of DCDs. They must have 4MB to work.
2. In actuality, the Savi 410Rs are 99% compatible because while they can indeed scan 1D and 2D labels, the built in function of being able to interrogate RF tags is disabled when the application is loaded **but** a solution has been found where that function can be reloaded on the Savi 410Rs. Now it is a question of getting the contractor to accomplish this very simple function.
3. The only Symbol series of scanners we really want to have compatible are the 7200 and 7500 series because those are the only ones being ordered by the services. The programming for the 7200 and 7500 series is interchangeable (it works for both).
4. The 2700 series is a very low capability Palm Pilot like device that would require totally different programming from the 7200 and 7500 series. There are no known orders for this series of scanners in any large numbers from any of the services.

5. The Savi Tag Docking Station will be compatible with the new version of TIPS to be released in June 00.

#### 1.2.5 Application Software.

a. ITO/TMO functions will be captured from the Air Force's Cargo Movement Operations System (CMOS). CMOS provides facilities to plan, document, and manage outbound and inbound cargo, as well as plan, schedule, and monitor the execution of transportation activities in support of deployment and reception of forces. The system will accumulate and aggregate shipment item data provided by electronic interface and manual entry; track the completion of transportation actions; prepare and print movement documentation; prepare and transmit advance shipment notification to all involved activities; and prepare and transmit system reports.

b. The Unit Move functions will be captured from the Marine Corps' Marine Air Ground Task Force (MAGTF) Deployment Support System (MDSS) II and TC-AIMS modules of the MAGTF Logistics Automated Information System (LOGAIS) system. MDSS II is used to create and maintain a unit's database of assigned equipment and personnel, source force requirements, create lists of deploying equipment and personnel, assign equipment and personnel to specific carriers for both sea and air movements and pass load plan data to aircraft and ship load planning systems. TC-AIMS uses the LOGAIS database to manage organic movement requests from the units and provides an automated ability to plan, coordinate, manage and execute MAGTF movement operations. It provides the ability to build convoys (equipment and routes), and initiate movement of the equipment using organic or ITO/TMO assets. Further, TC-AIMS provides interfaces to mode clearance and port systems for manifesting.

c. Air and ship load planning will be accomplished by interfacing with the Automated Air Load Planning System (AALPS) (Air Load) and Integrated Computerized Deployment System (ICODES) (Ship Load). These systems provide automated capabilities for the placement of Cargo (and Personnel) on the transportation vehicles and provide textual and graphical load plans for the use in loading. Rail load planning functions will be captured from the Transportation Coordinators'-Automated Command and Control Information System (TC-ACCIS).

d. Convoy planning will be Government off-the-Shelf (GOTS) captured from the Department of the Army Movement Management System-Redesign (DAMMS-R). It provides the capability to plan convoys (including vehicle assets and routes), create movement schedules, and coordinate with the host country. The GOTS maintains the highway regulation Geographical Information System data, data parameter tables and simulations in the theater of operations, maintains the convoy data for corps units, and schedules multiple convoys in a theater of operations.

### 1.3 PROJECT MANAGEMENT AND OVERSIGHT.

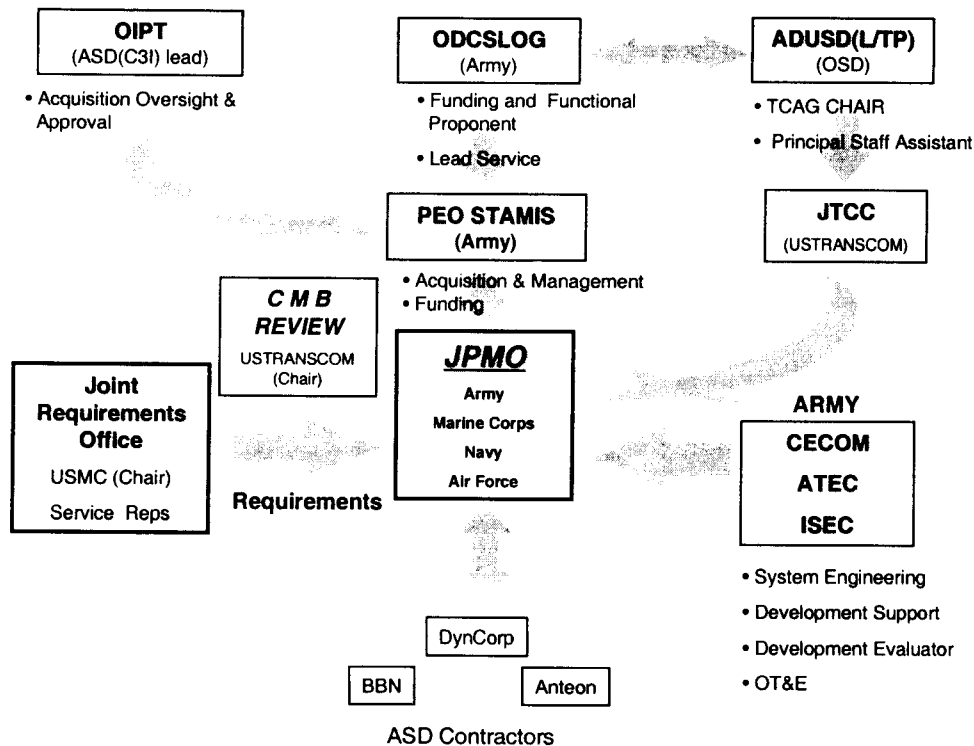


Figure 1-5: TC-AIMS II Management and Oversight Chart

#### 1.3.1 Joint Project Management Office, TC-AIMS II.

JPMO TC-AIMS II provides the overall management of TC-AIMS II and centralized administration for TC-AIMS II integration and control (see Figure 1-5, TC-AIMS II Organizational Chart). It also provides guidance and overall direction to the Services on initial/implementation training options, and monitors progress as reflected in the ILSP Service Annexes. JPMO TC-AIMS II coordinates system deployment with the Services and provides the Services or their agents with information required to manage, administer, operate, monitor, and maintain the system once it is fielded.

##### 1.3.1.1 Chief, Program Support Division, TC-AIMS II.

Manages and oversees planning, directing, organization, and directing program support in the areas of legacy system software support, resource management, and program analysis and evaluation. Utilizes metrics programs to measure progress toward obtaining cost, schedule, performance and quality objectives. Develops the Acquisition Strategy, Baseline Agreement, Economic Analysis, and System Decision Paper.

#### 1.3.1.2 Chief, Business Management Division, TC-AIMS II.

Plans, organizes and directs project resource management activities. Responsible for the budget and centralized administrative support for TC-AIMS II integration and control. Responsible for establishing policies, planning, prioritizing, and efficient and economical use of financial and manpower resources.

#### 1.3.1.3 Chief, Technical Division, TC-AIMS II.

Responsible for the technical solution to define and develop TC-AIMS II support requirements to include general support, fielding and distribution, implementation, and maintenance. Manages Y2K, DII/COE, Security Engineering, Software Development, and Joint Technical Architecture programs. Develops the Software Development Plan, Configuration Management Plan, Communications Plan, and Security Plan.

#### 1.3.1.4 Chief, Functional Division, TC-AIMS II.

Responsible for defining the TC-AIMS II operational characteristics in coordination with the specified user representative for each Service. Manages system interfaces, Automated Information Technology, Unit Move functionality, and ITI/TMO functionality programs.

#### 1.3.1.5 Chief, Test and Evaluation Division, TC-AIMS II.

Reviews the Mission Needs Statement, Operational Requirements Document, and coordinates developing the Test and Evaluation Master Plan. Manages Government testing of software, independent evaluation, and operational suitability programs.

#### 1.3.1.6 Chief, Integrated Logistic Support Division, TC-AIMS II.

Responsible for developing and implementing the Integrated Logistic Support Plan and MANPRINT requirements with particular focus on deployment support training and system fielding planning, coordination, and execution between the Project Office, Fielding Team, and Services.

##### 1.3.1.6.1 Integrated Logistic Support Working-Level Integrated Product Team (ILS WIPT).

The ILS WIPT serves as the logistic support planning and coordination body for the TC-AIMS II project. The team meets to review project status, report on significant events, identify and solve problems, and coordinate plans for future activities. The ILS WIPT advises and assists the JPMO ILS Manager with ILS plan coordination; monitoring of schedules and contractor performance; and ensuring the accuracy and timeliness of Service inputs. Ad hoc working groups can be formed by the ILS WIPT.

**1.3.2 Assistant Deputy Under Secretary of Defense -- Logistics for Transportation Policy (ADUSD-L/TP).**

Serves as the Principal Staff Activity (PSA) throughout the life-cycle of the TC-AIMS II project. ADUSD(L/TP) chairs the Transportation CIM Advisory Group (TCAG) which provides periodic review of all aspects of the TC-AIMS II project.

**1.3.3 Overarching Integrated Product Team (OIPT).**

With Assistant Secretary of Defense for Command, Control, Communications and Intelligence (ASD C3I) as the lead, provides acquisition oversight and approval throughout the life-cycle of TC-AIMS II project.

**1.3.4 Transportation CIM Advisory Group (TCAG).**

With the ADUSD (L/TP) as chair, serves as a periodic review advisory group for the TC-AIMS II project.

**1.3.5 Joint Transportation CIM Center (JTCC).**

Serves as a functional and technical monitor for the TC-AIMS II project.

**1.3.6 Office of the Deputy Chief of Staff for Logistics (ODCSLOG), U.S. Army.**

Serves as the functional proponent for the TC-AIMS II project and provides funding oversight.

**1.3.7 Program Executive Office, Standard Army Management Information System (PEO STAMIS).**

Serves as the focal point representing the functional interest and requirements of all Joint Services efforts, where appropriate. Provides the primary funding and acquisition management oversight authority.

**1.3.8 Joint Requirements Office (JRO).**

With the United States Marine Corps (USMC) as lead, provides program requirements to the TC-AIMS II program. The JRO is responsible for identifying functional, training, and operational requirements. It will participate in training and validating system deliverables.

**1.3.9 Application System Developer (ASD).**

As the Development Contractor, the ASD team is responsible for providing support for Software Engineering, Software Configuration Management, Quality Assurance, Logistics, Test and Evaluation, Implementation, and Documentation for the program.

#### **1.3.10 U.S. Army Communications-Electronics Command (CECOM).**

Provides assistance for development and acquisition of command, control, and communications systems and the support of those systems in the field.

#### **1.3.11 U.S. Army Information Systems Engineering Command (ISEC).**

Serves as the Independent Developmental Evaluator (IDE) for the TC-AIMS II project. Supports the acquisition of an effective, supportable and safe system by assisting in the engineering design and development, and by determining the degree to which the technical parameters of the system have been achieved. The IDE optimizes the use of data obtained from models, simulations, and testbeds as well as prototypes or full-scale developmental models.

#### **1.3.12 U.S. Army Test and Evaluation Command (ATEC).**

Responsible for planning, directing, and conducting an Operational Test and Evaluation (OT&E) of the operational effectiveness and suitability of TC-AIMS II. ATEC coordinates OT&E activities, test plans and test reports through the offices of two subordinate organizations.

##### **1.3.12.1 U.S. Army Operational Test Command (OTC).**

OTC is the ATEC subordinate command responsible to plan and conduct the operational test events for TC-AIMS II.

##### **1.3.12.2 U.S. Army Evaluation Center (AEC).**

AEC is the ATEC subordinate command responsible to perform the operational evaluation of the results of operational tests conducted by OTC.

### **1.4 APPLICABLE DOCUMENTS.**

The documents identified in Appendix C provide specific guidance, parameters, performance characteristics, and other criteria for functions and requirements described in this ILSP.

## **2. CONCEPTS/STRATEGY**

### **2.1 OPERATIONAL & ORGANIZATIONAL (O&O) PLAN.**

TC-AIMS II requirements have been expanded into a Mission Need Statement (MNS) format required for Major Automated Information System Review Council (MAISRC) milestone reviews. For a discussion of these requirements, see the TC-AIMS II MNS dated 5 August 1997.

## **2.2 MAINTENANCE CONCEPT.**

### **2.2.1 Hardware Maintenance.**

TC-AIMS II will use COTS hardware. The hardware purchased for either the Program Beta or Test sites have been transferred for ownership by those sites. All maintenance funding by the JPMO will cease in FY00. The Services will administer and oversee equipment and operating software maintenance and replacement. Hardware may be procured with an established warranty period in accordance with appropriate procurement contracts. Through coordination with the government and the maintenance contractor, extended warranty periods may be negotiated as required.

### **2.2.2 Software Maintenance.**

a. The JPMO will utilize a 24 hour per day Help Desk system to coordinate and resolve system problems referred from the Services and Joint users. The Help Desk will provide a single-track problem resolution interface with the software developer. Identified problems will be evaluated and will generate Incident Reports (IR). If appropriate, IRs will generate Software Change Requests (SCRs) to be tracked by configuration management, which will also distribute software updates.

b. Software maintenance/enhancements will be provided by the JPMO through a group of programmers and software experts who will respond to all SCRs generated through the Help Desk by users. This group will provide software configuration management and programming support for any changes/enhancements implemented based on existing requirements as reviewed by the JPMO. All changes that are enhancements to existing requirement's or result in new requirements will be reviewed by the JRO and approved by the configuration management board/configuration control board prior to implementation. A suite of equipment that supports the software configurations being deployed will be maintained at the software maintenance site by the JPMO for software development, test and integration. Software upgrades will be capable of being distributed electronically. Software support and maintenance will be required for the life of the program.

c. The Help Desk concept will ensure that all inputs are captured, prioritized, and resolved on a consistent and timely basis. The Help Desk will provide a 3 Tier problem resolution approach.

(1) Tier 1 will consist of a Case-based Reasoning System that will allow users to query via e-mail, cases of well-understood problems for solutions to common problems. Also, commonly asked questions and their solutions will be provided quarterly via the TC-AIMS II Web Page. Help and information will also be available by telephone.

(2) Tier II will be subject matter experts who will resolve/forward e-mail queries that could not be resolved using the case-based reasoning system. Help and information will also be available by telephone.

(3) Tier III will be software experts who will address problems passed to them by Tier II for resolution, generating SCRs when required. SCRs will be tracked for configuration management and distributed electronically with routine software updates unless operational requirements establish a need for an immediate response. For software problems, program developers will provide solutions. Hardware problems unique to Services will be referred to the appropriate Service representative for resolution.

d. See paragraph 2.5.1 for additional maintenance information.

### 2.2.3 Customer Software Support.

Customer software support will be implemented in three periods; predeployment, deployment, and post deployment.

(1) The predeployment period will cover installation, training and assessments at the Test sites only until full program fielding begins. Tier I will be the primary focus, operating Monday through Friday, 8:00 AM - 5:00 PM (EST). Here, the contract software developer and maintenance activity provides Help Desk support. The response time goal will be within 24 hours of receipt of inquiry.

(2) The deployment period begins at the time of fielding. All three tiers will be employed. The JPMO managed, contractor operated, Help Desk will provide 24 hour customer support. Response time goals will be (not more than) 24, 48 and 96 hours for tiers I, II and III respectively. Responses will include immediate help in answering a problem, walking the caller through the problem, and/or recording the problem and getting back to the caller. An internal tracking process for calls to the Help Desk will be employed until the problem is closed.

(3) The post deployment period begins when Full Operational Capability (FOC) is reached. Tiers II and III will be operational. Telephone calls will be accepted, however, the preferred method of contacting the Help Desk will be through e-mail. A cost trade-off analysis will determine if a contractor or the government will provide post deployment Help Desk support.

### 2.2.4 Joint Data Library (JDL) Maintenance.

a. The Joint Data Library is integral part of the TC-AIMS II with an integrated database of over 150 tables that support joint and Service uses. It is a catalog of standardized data resulting from integration of databases that support ITO/TMO and Unit Move functions from all of the Services. The JPMO is responsible for the collection of all pertinent Services' reference databases, the integration of these databases into the JDL, and the production, distribution and maintenance of the JDL. The JDL will support the Joint Services' Unit Movement and ITO/TMO. It will provide a controlled environment and dissemination of data in support of the Services' daily operations and force deployments.

b. Each data table must be addressed in terms of its frequency of update from its source or data violability. A comprehensive data quality program based upon DoD data standards has been established and maintained to improve the quality and reliability of data entered into and

accepted by TC-AIMS II. While the JDL was initiated by the JPMO, plans call for CINCTRANSCOM to take over management and maintenance of the JDL.

c. The issuance of updates will be primarily electronic distribution to the System Administrators as described in paragraph 2.5.7 following. Due to the volume of "patches" which such data could generate, the JDL will be issued new electronically from the Web to System Administrators as well as shipping a CD-ROM.

d. The JDL is composed of four general categories of information:

- (1) Movement and cargo shipping data.
- (2) Document and other process related data.
- (3) Equipment characteristics (e.g. dimensions, weight, etc.).
- (4) Courier, mail and other service rates.

e. The JDL may be updated monthly for selected tables and quarterly for the entire database; then distributed as follows:

(1) Memorandums of Agreement (MOA) between the various data sources and the JPMO will facilitate the submission of reference tables to the JPMO on a cyclical basis. Sources will be responsible for the testing and quality of their data. Problems with data as identified to the JPMO by the users will be forwarded to the data source for correction.

(2) The JPMO will collect the reference tables and update the JDL via manual and automated means.

(3) The JPMO will test the JDL for data integrity.

(4) Once the update has been completed, the JPMO will:

(a) Monthly – Provide the JDL to users via the Electronic Distribution System (pushes the data to system administrators or users) and the TC-AIMS II Web Site (users will pull data). Monthly updates will include those reference tables (e.g. courier rates) that change frequently.

(b) Quarterly – Submit the JDL and supporting documentation to the CD-ROM production and distribution facility. (Facility is to be determined).

#### **2.2.5 Data Security, Accreditation, and Sensitivity.**

a. The TC-AIMS II software suite will be certified and accredited to meet the C2 security criteria specified in DoD 5200.28-STD (the Orange Book) and will comply with the minimum security requirements as specified in DoD Directive 5200.28.

b. Data exchanged through this interface will have a data sensitivity rating no higher than Sensitive But Unclassified (SBU). Data protection mechanisms used for all electronic communication will be commensurate with those required for SBU data.

## 2.3 ACQUISITION STRATEGY.

### 2.3.1 Acquisition Approach.

The TC-AIMS II acquisition process will be characterized by concurrent prototyping, Joint application development, testing integration, fielding, and support. At any given time, new functions based on Configuration Management Board (CMB) approved requirements will be in the prototype phase while the next increment of work is being specified. This will occur as previously specified work is being developed, tested, and fielded. The operational software will be constantly improved, with revisions incorporated as fixes or as part of future deliveries.

### 2.3.2 Evolutionary Acquisition

The TC-AIMS II acquisition process is not intended to begin the process of fielding a new system. Rather, the intent is to take an evolutionary approach of utilizing common characteristics, features, and functionalities of existing legacy systems to accommodate the needs of the Joint community. The software development is performed in an evolutionary process. The process involves development through specific, sequential stages. There are specific objectives to be accomplished in each stage; each activity must be deemed successful for work to proceed to the subsequent phase. The process is usually considered non-iterative. Each phase requires the delivery of particular documentation products [Contract Data Requirements List (CDRL) items]. Many of the phases require successful completion of a government review process. An alternative approach to software development involves the use of incremental builds. With this approach, software development begins with the design of certain core functions to meet critical requirements, and each successive software "build" provides additional functions or enhances performance. Once system requirements are defined and preliminary system design is complete, each build may follow the pattern for subsequent development phases. Each successive build will be integrated with prior builds. There will be multiple releases of TC-AIMS II with each providing enhanced functionality and encompassing some of the elements of the evolutionary approach to the total migration of the legacy systems.

## 2.4 TEST AND EVALUATION (T&E) CONCEPT.

### 2.4.1 Engineering and Manufacturing Development (EMD).

The TC-AIMS II program is not a new start with an EMD phase. The program integrates the functionality of existing transportation automated information systems into a Joint Service product, then enhances, modifies, and re-engineers TC-AIMS II until the required Joint user functionality is achieved. Additional T&E information will be provided in the TC-AIMS II Test and Evaluation Master Plan (TEMP) TBD.

#### 2.4.2 Development Test and Evaluation (DTE).

To establish the initial TC-AIMS II platform, and expand functionality based on the Services' requirements, JPMO adopted an iterative development and test approach. Within this evolutionary approach, there were multiple releases of TC-AIMS II, each release providing additional functionality or enhancements. Developmental testing was accomplished by performing an iterative series of beta (integration) test scenarios, on successive fielded versions of TC-AIMS II. Beta (integration) testing of each iterative version was conducted at two sites selected by each Service. Performance of these test scenarios was the functional equivalent of developmental test and evaluation. Beta tests were performed by Subject Matter Experts (SME) from the user community, with the test results used to assess the success or required improvement for the next fielded version. Planning for each of the follow-on releases was similar in form to the previous version, but distinctly different in detail because each version addressed different incremental requirements.

#### 2.4.3 Demonstration/Validation.

Fielded beta test systems will be left in place for daily use at each Service test installation, and improved via a proactive problem reporting /correction process established by the developer. Functionality demonstrated in the beta systems will be employed in the target user operating environment to assist and complement current business practices and procedures. Pro-active feedback loops between the developer and the field will provide the Services the opportunity to influence version development in addition to scheduled reviews and demonstrations (outlined in the TEMP). This methodology effectively integrates developmental and operational testing, and prepares for formal combined Developmental Testing and Operational Testing (DT&OT).

#### 2.5 ILS ELEMENT CONCEPT.

In support of ILS planning, the following terms are used:

- (1) **Location** - A base, camp, or station that has a site or multiple sites that use TC-AIMS II.
- (2) **Site** - A command or activity that has an assigned Unit Identification Code (UIC) or DoD Activity Address Code (DODAAC).
- (3) **User** - Where the Unit Move or ITO/TMO function is actually used based on a single PC.
- (4) **Training Location** - A geographic based location (regionalization), determined by the Services, as a designated site for training.

## 2.5.1 Maintenance Planning.

### 2.5.1.1 Application Software.

a. The three levels of maintenance for application software are unit, intermediate, and Depot.

(1) **Unit.** Operators will install/reinstall application software at the unit maintenance level.

(2) **Intermediate.** Service Database/System Administrators will provide application software system upgrades/ change packages and update files at the intermediate maintenance level.

(3) **Depot.** Depot level application maintenance functions will be managed by the JPMO and will be performed initially by the software development contractors. These functions will include operation of the Help Desk, application software development and maintenance, technical support, change packages, modification enhancements, and update releases.

b. Life cycle software support will be provided for application software. A trade-off study will determine if long term maintenance will be provided by Contractor Logistics Support (CLS) or the government.

c. The TC-AIMS II program is key to the deployment capabilities of the United States. While we expect changes to the Program to occur on a regular basis in peacetime, there is potential for software changes to increase, perhaps dramatically, in **Crisis Execution** while forces are actually deploying. Each Service must review how software resupply is to occur via an institutionalized software logistics system and outline such in its Service Annex. In a crisis, rapid distribution may be critical. If such is not reviewed, software version confusion will be produced, training problems will occur, interoperability issues will arise, and potential risk for the degradation of performance or accuracy of data may occur at a critical time.

### 2.5.1.2 Commercial Software.

a. Services will buy the hardware and commercial software for their operating systems. The JPMO will provide the application software with embedded COTS software. Should the software change, the JPMO will fund for the software that provides the functionality needed. The Services will be responsible for obtaining remaining commercial software licenses and technical support.

b. Before the JPMO decides to upgrade the operating environment, representatives will coordinate with the Services on the changes.

#### 2.5.1.2 Hardware.

a. The Services will buy their own hardware using existing Indefinite Delivery and Indefinite Quantity (IDIQ) contracts. A minimum to optimum range of requirements for the operating systems is shown in paragraph 1.2.4 above. The JPMO will develop a database of "*lessons identified*" that will be used by Help Desk personnel in supporting user questions regarding a particular hardware problem. Hardware problems that the Help Desk cannot resolve will be sent to the appropriate Service designated agency.

b. The Services and Joint users will be responsible for obtaining hardware maintenance support for the operating systems. A maintenance support plan, to include warranty information, will be part of the Service Implementation Annex to the ILS Plan.

c. It is suggested that the Services consider sending the procured hardware to an integrator who will install/test the required client software before it is sent to a Service location/user as directed by the Service. This will allow for a better integration of software training and hardware deliveries

d. The JPMO must exert control over the users of the program in order to maintain an accurate picture of the authorized user population due to software licensing agreements and the need to ensure version control of the Program world-wide. As a means to accomplish this, when new users initially log-on, the program will ask the user for specific information as well as gather hardware information that will support future Help Desk support. This information will be forwarded to the JPMO for compilation.

d. Selected sites will transition to Service Test Sites and interim maintenance support will be obtained by the JPMO.

#### 2.5.2 Manpower and Personnel.

##### 2.5.2.1 Manpower.

TC-AIMS II is replacing existing systems and will not increase the number of personnel or change the force structure - - active, reserve and civil service. The system will be used by transportation, embarkation, and movement coordination officers, enlisted members, equivalent grade civilians, and augmentees.

##### 2.5.2.2 Personnel.

The system will not require a new Military Occupational Specialty (MOS), an Additional Skill Identifier (ASI), or additional entry level requirements to operate or maintain TC-AIMS II. As part of the Service Implementation Annex to the ILS Plan, Services will identify the military occupational specialties and the numbers of personnel by grade required to use the Unit Move and ITO/TMO functions.

### 2.5.3 Supply Support.

TC-AIMS II will not introduce anything new into the National Supply System and there will be no central provisioning. The Services should provide a listing of consumables and spare parts in their Service Annexes. Individual organizations will maintain the recommended levels. The Services will be responsible for developing a commercial based supply support plan.

### 2.5.4 Support Equipment.

No unique support equipment or Test, Measurement, and Diagnostic Equipment (TMDE) is required. Electric power generation equipment for deployable units is a major concern. Services will assess the power requirements to support TC-AIMS II and provide solutions in the Service Implementation Annex to the ILS Plan.

### 2.5.5 Technical Data.

#### 2.5.5.1 Operating Systems.

The JPMO will not acquire technical data to support hardware procurement or supplies. The JPMO will provide system performance criteria for Services to procure hardware and the Services will plan for the technical manuals and user manuals to support the hardware and operating systems.

#### 2.5.5.2 Application Software

JPMO will develop and deliver electronic TC-AIMS II Application Software Manuals for the user/operator/system administrator. Non-specific or general terminology will be used when discussing the multiple hardware operating systems. Validation/verification of the manuals will be performed by the Army and witnessed by the other Services. The Services must identify the desired reading level for the manuals.

### 2.5.6 Training, Training Aids and Devices, and Training Support.

TC-AIMS II will employ COTS software with embedded screen and context-sensitive help functions.

In addition to the standard screen and context-sensitive help features, electronic user's manuals and a bridge to multimedia training will be developed and provided as part of the software development effort. The JPMO, in coordination with the Services, will develop user's manuals for installation procedures, Unit Move, SA/DBA, and AIT.

Also, interactive and standalone (CD-ROM based) multimedia training will be provided to augment Unit Move and SA/DBA training.

#### 2.5.6.1 Training Concept.

The JPMO will provide contractor developed training for initial deployment and assist the Services with follow-on sustainment training development. Since each Service approaches initial training differently, the term "Instructor and Key Personnel" (IKP) is used to describe TC-AIMS II training provided by the JPMO. Key Personnel are those individuals identified by the Services as requiring initial training. For the most part, these individuals represent the initial primary users of the system, whether they are systems administrators, database administrators, or unit movement personnel. The Services will train all subsequent users. This may be accomplished by the Services providing training through their respective formal school systems or by other instructors outside that structure. Either way, these instructors should be trained as part of the initial instruction provided by the JPMO. The total number of IKPs trained is limited by funding received by the Lead Service based on Service input.

#### 2.5.6.2 Training at Service Locations.

Especially due to the large number of unit movement personnel and their high turnover rate, the JPMO will require extensive use of multimedia training to augment the initial deployment training concept. This concept will be used at Service locations for designated personnel who already have the functional background to use the program. It is envisioned, due to their smaller numbers, that all designated System and Database Administrators for a particular location will be trained as a group. The structure and materials for the IKP trainers to use in follow-on training will be provided by the JPMO. The Services will use these trainers to continue the TC-AIMS II training at Service locations.

#### 2.5.6.3 Contractor Developed Products.

Training Support Packages (TSPs) used for sustainment training will be developed by the Services. Assistance will be provided, as necessary, by the contractors of the JPMO. The JPMO will develop the TSPs for the functional User and SA/DBA courses to be taught at Service locations during deployment/fielding. Additionally, software developers will provide integrating help utilities and a bridge to multimedia training. Training developers will provide electronic user's manuals and practical exercise scenarios.

#### 2.5.6.4 Training Aids, Devices, and Media.

- a. Sound cards and compact disk readers will be required for TC-AIMS II multimedia training. Central classrooms at Service locations will be established for IKP training during initial deployment.
- b. The JPMO will bring all required hardware, equipment, and supplies to each training session.
- c. Training will be augmented with "How Do I" embedded training, help screens, electronic user's manuals, and a bridge to multimedia training.

d. To support IKP training, Services will ensure that functional users and System/Database Administrators are familiar with the transportation functions and operating systems to be supported.

e. An overview video for managers will be provided for each Service location.

## **2.5.7 Computer Resources Support.**

### **2.5.7.1 Commercial Software.**

a. **The Services will be responsible for the licenses and maintenance on the commercial software purchased for operating systems.** The Services will also be responsible for their commercial software upgrades, however, the upgrades should be certified by the JPMO for compatibility with TC-AIMS II prior to purchase.

b. The JPMO will be responsible for commercial products associated with application software. These products will be incorporated in the application software release cycles. The JPMO will provide the application software with embedded COTS software.

### **2.5.7.2 Developed Application Software.**

a. Initial fielding of the software should be done concurrently with the Service hardware being prepared for shipment to the specific Site. This integration and subsequent testing will allow for a common approach by each Service and lessen the demands upon the receiving installation to conduct additional software loading and integration while they are trying to distribute the hardware. Should the software not be installed when the JPMO Training Teams arrive at the installation, they will assist as time permits.

b. Update releases to the developed application software will be provided **after** IOC. Recommended changes to be incorporated into the releases must be inside the current baseline or approved by the CMB. The JPMO must control how software licenses are being used by the users across the Services and that version control is maintained across the system. For this reason, the Program will focus on providing updates or changes on the software to the System Administrators in the Services vice individual users.

c. IAW the TC-AIMS II Configuration Management Plan (CMP), user identified software deficiencies will be received through the TC-AIMS II Help Desk as a Problem Report (PR). See the CMP and the Software Development Plan for specific details regarding the involvement of the CMB, software development, and the software test processing of software changes or upgrades.

d. Interim Change Package (ICP). An ICP is an unscheduled package provided to resolve a software problem on an interim basis pending the incorporation of the change into a Software Change Package. An ICP is used when the urgency or regulatory requirement of an Engineering Change Proposal-Software (ECP-S) is such that the change(s) must be provided

before the availability of the next SCP. ICPs will be distributed to Service System Administrators via the following media:

(1) Electronic Distribution System (EDS). The ICP is "*pushed*" out to System Administrator file servers. Under this technique, ICPs will be automatically downloaded and installed once the user supported by that Administrator logs in. This process is most suited for ensuring that all users are on the same software version and will aid system administration.

(2) Web Site. System Administrators are notified via e-mail of the ICP and are told to access the Help Desk on the Web Site and manually download the ICP if the EDS did not function properly.

(3) File Transfer Protocol (FTP). System Administrators download software changes via FTP.

(4) Data Tape/Diskette(s) via Mail or courier service. System Administrators without Internet capability or austere connectivity will receive ICPs via this method.

e. Software Change Package (SCP). An SCP is a scheduled package developed by the developer and validated by the JPMO after CMB coordination. It includes all software (e.g./ databases, tables, programs, documentation, etc.) that would be required by a new end-user to operate the system. The SCP is a much larger package than the ICP and will be distributed by CD ROM to the System Administrators.

f. Future efforts will focus on automatic distribution and installation through Edge Servers. The distribution center would customize install options for a particular Service System Administrator and create an application template along functional lines such as Unit Move or Traffic Management. Service policy and control by the System Administrator assigns the template to the specific Service end users. Upon user logon, the template applies the required applications to the PC before the user can use any aspects of the TC-AIMS II program. The same process could be followed for patches supporting the JDL.

#### 2.5.8 Facilities.

TC-AIMS II will be employed as a garrison and a deployable system. In garrison, the system will be installed and used in existing facilities with no change to the basing concept. Deployable system requirements will include communications connectivity and power availability. The Services will be responsible for identifying and funding for the electrical power requirements.

#### 2.5.9 Packaging, Handling, Storage, and Transportability.

There are no special packaging, handling, storage, or transportability requirements for TC-AIMS II in garrison. Commercial packaging will meet most requirements during deployment.

## **2.5.10 Design Interface.**

### **2.5.10.1 Human Systems Integration (HSI).**

The Human Systems Integration Plan (HSIP), a separate document, serves as the principal source document for addressing HSI issues involved in the development of TC-AIMS II. The HSI domains include manpower, personnel, training, HFE, system safety, health hazards, and soldier survivability. The HSIP will be used as a planning guide and management tool to ensure HSI issues are resolved during system design, development, and deployment.

### **2.5.10.2 System Safety/Health Hazards.**

TC-AIMS II will not introduce any new safety or health hazards into the transportation coordination environment. Basic computer safety practices will be outlined in the vendor's hardware literature. COTS manufacturers, hardware vendors, and other developmental contractors will be responsible for complying with Occupational Safety and Health Administration (OSHA) guidelines for protecting consumers from hazards associated with their products.

### **2.5.10.3 Human Factors Engineering (HFE).**

The design of TC-AIMS II will be in accordance with appropriate DoD ergonomic manuals and regulations. In addition, the Services may have requirements for ruggedizing the hardware used by their deployable systems.

## **2.5.11 Deployment Planning.**

### **2.5.11.1 Deployment Planning Information.**

The ILSP provides long term deployment considerations. Current information on the Deployment Plan, schedules, Location MOAs with site surveys, and fielding strategies in the Services' ILS Implementation Plan Annexes to the ILSP will be found on the TC-AIMS II Web Site to ensure its timeliness. A sample of the MOA used to support initial training and software installation at Service locations is found at Annex H.

### **2.5.11.2 Deployment Responsibilities.**

Field deployment planning will be managed by the JPMO ILS Division. Deployment actions support specific training and software fielding to be conducted at Training Locations and the fielding of the TC-AIMS II software to remaining locations worldwide. These actions may be conducted concurrently with Site Surveys and other actions deemed necessary by each Service to field Service hardware and prepare the infrastructure aboard each installation for using TC-AIMS II.

### 2.5.11.3 Training Locations - Three Stages of Deployment.

a. A Pre-Support Survey will be mailed out approximately **120 days** prior to training being conducted at a particular Service Training Site. The survey package will include a top-level program briefing explaining the process which will be followed and a copy of a draft MOA will be provided to the receiving Installation.

b. A Training Survey is considered to be an agreement stage and will be conducted approximately **90 days** prior to training. It will require 3 people {a JPMO (SEAT) Government Representative, one from the respective Service, and a technical specialist from the IKP training contractor} about three days to accomplish. A program review for key executives, a checklist review, a program overview for key and senior leadership, a review of the Installation Survey components that may have been provided by a Fielding Agency, a brief look at the physical facilities for working and training, and a status review of material requirements (equipment on order, LAN connectivity, power check) will be conducted. Participants will agree on the training support requirements and responsibilities and ensure they are documented in the MOA. The MOA will be signed during or immediately following the Training Survey stage.

c. While not a deployment stage, Service locations will notify the JPMO and respective Service headquarters at **60 days** from the execution stage (see paragraph 2.5.11.3.d below) on hardware availability and MOA implementation. This will be, in essence, a declaration that planned training should continue or not (Go-No Go).

d. Installation and Training is considered to be the execution stage. It will require 7 people {a JPMO (SEAT) Government Representative, one from the respective Service, and 5 contract instructors} about four weeks to accomplish. Three weeks will be used for travel, training set-up/installation, actual training, and assisting in checking software and data conversion procedures and one week for on-site support (SA/DBA training locations only) with the system operators in monitoring and assisting program use. The respective Service will be responsible for installation of the operating hardware. Training may be consecutive at one location, or the SA/DBA part may be centralized based on Service requirements. A typical example of the schedule would be:

- (1) Training Team arrives on Saturday.
- (2) Equipment & supplies are unpacked and prepped on Sunday.
- (3) \*SA/DBA Training is conducted on Monday through Friday (5 days).
- (4) \*UM Training starts the following week for 8 days.
- (5) Equipment and supplies are shipped to the next Location.
- (6) \*Assist Installation & monitor use for 5 days following the SA/DBA Training.

\* **Note:** For locations that hold UM Training only, with the SA/BA part centralized at a separate Service location, Step 3 and Step 6 are eliminated. For centralized SA/DBA Training locations, Step 4 is eliminated.

#### 2.5.11.4 Non-Training Locations - Deployment Support.

a. Fielding deployment support of TC-AIMS II at non-Training Locations will normally follow three steps to assist the Services in having the Program in-place and ready for operational use.

b. A **mail-out** will be initiated by the JPMO, after coordination with the respective Service, to develop a timeline, provide a Support Survey to be completed by the Location, and provide a Program Brief. Since training is not to be conducted at the Location, there is no MOA to develop.

c. The next step would be an **analysis of the data** found in the completed Support Survey to enable the JPMO Fielding Team to develop an understanding of the Location and the Sites to be supported. As questions occur, the JPMO will coordinate their resolution based on Service guidance and the roles of designated points of contact.

d. An **Assistance Visit** by a Fielding Team may be required, depending on the size of the Location and specific necessities. This follow-on assistance would be based on specific needs and be made by exception. The Fielding Team, made up of contractors, would spend up to a week at the Post, Base, or Station. The Team will assist Service personnel in the review of software integration with the planned hardware, monitor the conversion of data from legacy programs, help to resolve server problems, and to overall ensure that the Program is functional at the Location by the date required.

#### 2.5.11.5 Legacy System Transition (Shut-off).

Key to the implementation of the TC-AIMS II program across the Services is the timely decision by a Service to cease operations of existing automated systems which TC-AIMS II is replacing. To ensure continued operational support, a Service may desire to run both TC-AIMS II and the legacy system(s) for a period of time. The longer that such concurrency continues, the risk and cost grows to that Service. Each Service must determine if such a changeover is to occur by installation, region, or country based on Service and joint needs.

### 3. ILS MILESTONE SCHEDULE

An ILS milestone schedule is shown on the next page: